



Idaho's Snake River Plain was the focus of the U.S. Department of Energy's National Geothermal Student Competition this year. Most of the eight finalist teams, which included three Idaho universities, visited Idaho and consulted with INL and Idaho experts.

Student geothermal competitors tap Idaho expertise

By Kortny Rolston, *INL Communications & Governmental Affairs*

Look at a map of U.S. subsurface temperature data and few places are as red (hotter than 250 degrees Celsius) and large (10,000-plus square miles) as Idaho's Snake River Plain.

Those two characteristics are why university students across the country are studying the volcanic plain and its potential to generate geothermal energy as part of a national competition sponsored by the U.S. Department of Energy.

"The Snake River Plain is along the Yellowstone hot spot and is an ideal location to study for its geothermal energy potential," said Robert Podgorney, a geothermal researcher at Idaho National Laboratory. "The area is renowned for its geothermal activity and high subsurface temperatures."

Eight university teams made the finals in the department's National Geothermal Student Competition, including three from Idaho. All three Idaho public research universities — Boise State University, Idaho State University and University of Idaho — have teams in the finals.

The student teams submitted pre-proposals, which a panel evaluated for technical merit. The top teams were selected and given \$10,000 to cover expenses and travel to eastern Idaho to collect samples or gather data.

Did you know?

The winner of the U.S. Department of Energy's Student Geothermal Competition will be announced during the 36th Annual Geothermal Resources Council Meeting Sept. 30 to Oct. 3 in Reno, Nev.



In addition, teams met via webinar in July with a panel of geothermal experts from around the state — including INL, the Idaho public research universities and private industry — to ask questions and glean information.

"We were able to answer a lot of their questions about subsurface temperatures and other data we have collected in the area," Podgorney said. "(Panel members) have been gathering data for decades and the students wanted to tap into that knowledge."

This is the second year DOE has sponsored the geothermal competition.

Student teams visited Idaho's Snake River Plain to collect samples or gather data for their geothermal energy proposals. The goal is to not only advance geothermal education in the United States but also generate data that may be useful to industry and help develop new geothermal sites.

"It's really a hands-on project for these students," said Desmond Stubbs, a senior project manager and Oak Ridge National Laboratory employee who is running the competition for DOE. "They get to choose what they want to study about the Snake River Plain, research it and then present the information. It's a great experience for the students."

Rebecca Ohly, a graduate student at Idaho State University, agrees.

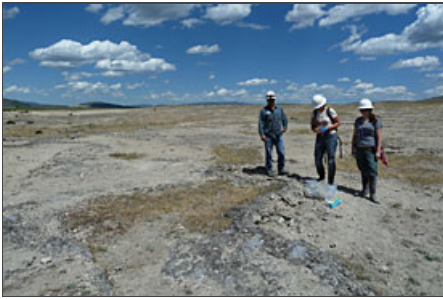
She and her ISU team members are building a conceptual model of the Snake River Plain's subsurface to try to better evaluate the amount of heat below the large expanse. The team entered the contest after the members took a course at ISU on geothermal exploration, which also inspired Ohly to change the focus of her master's thesis.

"Geothermal energy has a lot of potential, especially in Idaho," she said. "It's fairly easy to get to, and it's right here. You don't have to import it."

Learn more

More information about the U.S. Department of Energy's National Geothermal Student Competition is at [the competition's website](#). Information about the finalists and their projects is at [this DOE website](#).

Podgorney is excited the Snake River Plain was selected as the topic of this year's competition. The area, he said, is ripe for geothermal development — especially with the advent of a new technology called enhanced geothermal systems (EGS).



With EGS technology, areas once passed over for geothermal development are now viable options. That's because EGS requires only high subsurface temperatures be present to produce electricity (fluid is injected onto hot dry rock that has been fractured). With conventional geothermal plants, a site needs not only high subsurface temperatures but also water and permeable rock.

"The work these teams are doing could lead to a breakthrough in developing the geothermal resources of the Snake River Plain," Podgorney said. "Geothermal is a clean and reliable source of power and with EGS technology, the United States has the potential to produce thousands of megawatts of electricity."

University students across the country are studying Eastern Idaho's volcanic plain and its potential to generate geothermal energy. (Posted Sept. 25, 2012) [Feature Archive](#)